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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,130	06/25/2001	Steven Verhaverbeke	004733	1957

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APPLIED MATERIALS, INC.
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EXAMINER	
MARKOFF, ALEXANDER	
ART UNIT	**PAPER NUMBER**
1746	7

DATE MAILED: 03/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/892,130	Applicant(s) VERHAVERBEKE ET AL.	
	Examiner Alexander Markoff	Art Unit 1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) *32 and 33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-33* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-31 drawn to a method, classified in class 134, subclass 30.

II. Claim 32, drawn to a method, classified in class 134, subclass 26.

III. Claim 33, drawn to a method, classified in class 134, subclass 36.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Group I and Groups II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not disclosed as capable of use together and they have different modes of operation. The inventions of Groups II and III require specific sequences of processing steps, which are different from each other. Such sequences are not required by invention of Group I. The specifically claimed limitations of Group I are not required by Groups II and III.

3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II and Group III, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Michael A. Bernadicou on 3/17/03 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-31. It is noted that the initial restriction requirement was made according to the

grouping similar to the one made by the EPO. The examiner later join Groups 1 and 4-7, because the same prior art can be properly applied to all groups. The applicants are, however, advised that if the claims would be amended to require separate consideration and/or search, such or another requirement can be made again. Affirmation of this election must be made by applicant in replying to this Office action. Claims 32 and 33 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 4-8, 10-14, 16, 21, 24, 26-29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Ueno (US Patent No 5,882,433).

Ueno teaches a method as claimed. See entire reference, especially Figs. 2-11 and columns 3-12.

8. Claims 1-3, 6-9, 13-15, 17-19 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 19833197 (cited using US 6,431,184).

DE document teaches a method as claimed. See entire reference, especially Figs. 2-5 and the related description.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno (US Patent No 5,882,433).

Ueno teaches a method as claimed except for water temperature being 60-70 °C. See entire reference, especially Figs. 2-11 and columns 3-12.

However, Ueno recommends the temperature being between the room temperature and IPA temperature which is disclosed as 80 °C (column 11, lines 6-16).

It would have been obvious to an ordinary artisan at the time the invention was made to find an optimum temperature in the range disclosed by Ueno by routine experimentation.

13. Claims 3, 9, 15, 17-20, 23, 25 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno (US Patent No 5,882,433) in view of DE 19833197.

Ueno teaches a method as claimed except for application of sonic energy during water dispensing. See entire reference, especially Figs. 2-11 and columns 3-12.

However, the DE document teaches that megasonic vibration improves cleaning and recommends application of the vibration in the claimed ranged during cleaning and rinsing of rotating wafers.

It would have been obvious to an ordinary artisan at the time the invention was made to impart megasonic vibrations in the method of Ueno in order to improve cleaning and rinsing as recommended by the DE document.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Markoff whose telephone number is 703-308-7545. The examiner can normally be reached on Monday - Friday 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on 703-308-4333.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

Alexander Markoff
Primary Examiner
Art Unit 1746

am
March 17, 2003

ALEXANDER MARKOFF
PRIMARY EXAMINER